Brocade 4Gb SAN Switch for HP p-Class BladeSystem

quick setup instructions

Read instructions completely before beginning the installation procedure.

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Overview

The Brocade 4Gb SAN Switch for HP p-Class BladeSystem (henceforth referred to as the SAN Switch) provides integrated Fibre Channel (FC) switch connectivity for single and dual density p-Class blade servers. This FC switch is compatible with any combination of server blades and Ethernet Interconnect switch blades that support FC connectivity in the HP BladeSystem enclosure.

Kit contents

- *Brocade 4Gb SAN Switch for HP p-Class BladeSystem quick setup instructions*
- One SAN Switch
- One HP ProLiant BL p-Class Fibre Channel Signal Conditioning Card
- Two 4Gb small form-factor pluggable (SFP) optical transceivers
- One 10-inch miniature serial cable and one RS-232 Serial cable

Warnings and cautions

WARNING! Installation of the HP ProLiant BL p-Class FC Signal Conditioning Cards should be performed by individuals who are both qualified to service computer equipment and trained in the dangers associated with products capable of producing hazardous energy levels.

WARNING! To reduce the risk of personal injury from hot surfaces, allow the internal system components to cool before touching them.

WARNING! Eliminate the risk of electric shock by removing all AC power from the system before installing or replacing any non-hotplug hardware option to the server. Disconnect all power cords to completely remove power from the server.

WARNING! This documentation assumes that the server blade is in a rack and not receiving power from a diagnostic station.

CAUTION: Properly ground yourself before beginning any installation procedure. Electrostatic discharge can damage electronic components.

Installation guidelines

Observe the following guidelines during installation:

- Install the FC signal conditioning cards into the HP BladeSystem (p-Class) I/O Blade Interconnect Switch (hereafter referred to as the Interconnect switch).
- Install the Interconnect switch into the interconnect bays, which are the left-most (side A) and right-most (side B) bays on the front side of the server blade enclosure.
- Always install the 4Gb SAN Switches into the top left-most and top-right-most bays on the rear side of the server blade enclosure.
- Install the small form-factor pluggable (SFP) optical transceivers into the appropriate Fibre Channel ports in the 4Gb SAN Switch.

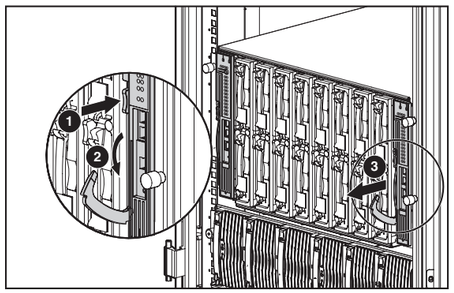
Additional Information

For additional information about Storage Area Network (SAN) connectivity, refer to the *SAN Design Reference Guide* located at http://h18000.www1.hp.com/products/storageworks/san/documentation.html

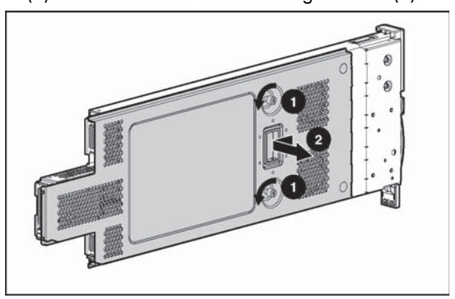
IMPORTANT: Hot plugging a SAN Switch into an Interconnect switch may result in the temporary loss of network communication for the server blade network ports connected through the Interconnect switch. For continued Blade server Ethernet communication and services availability, redirect critical high-availability services or applications to the network ports connected through the redundant Interconnect switch in the enclosure.

Upgrading the Interconnect switch with an FC signal conditioning card

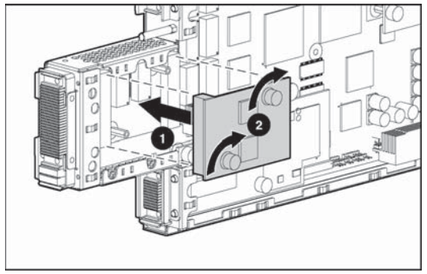
1. Power down the Interconnect switch.
2. Remove the Interconnect switch.



3. Remove the Interconnect switch cover by turning the thumbscrews (1) counterclockwise and loosening the latch (2).



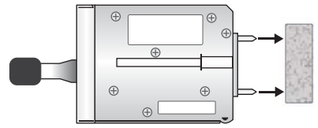
4. Install the FC signal conditioning card if not already installed.



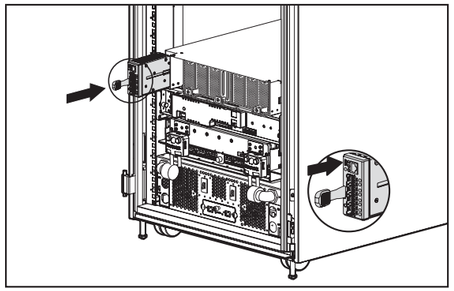
5. Replace the Interconnect switch cover and insert the Interconnect switch back into the enclosure.

Installing the 4Gb SAN Switch

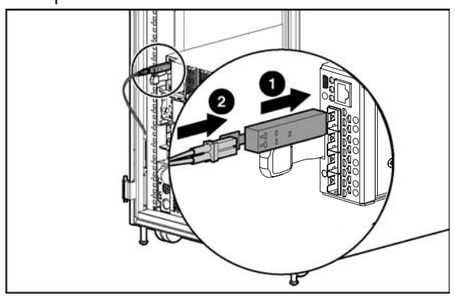
1. Remove the protective foam from the prongs on the back of the 4Gb SAN Switch.



2. Install the SAN Switch into the back of the Interconnect switch. The handle of the 4Gb SAN Switch should always be on the left.



3. Install the transceivers and cable.
   a. Insert the transceiver SFP modules (1) into the Fibre Channel ports that correspond to the Blade servers with Fibre Channel connectivity. Be sure to keep the rubber plugs in the unused transceivers to prevent dust and ambient light from entering the SFPs.
   b. Insert the optical cable (2) into the transceiver SFP module. When fully seated, both the transceiver and the cable click into place.

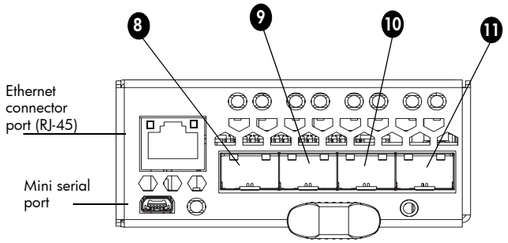


Configuring the SAN Switch

For detailed instructions on configuring the 4Gb SAN Switch, See the *Brocade 4Gb SAN switch for HP p-Class BladeSystem Installation Guide*.

1. Power up the Switch and log in.
2. Make a connection to the miniature serial port.
3. Set the IP address.
4. Create an Ethernet connection and log in.
5. Modify the FC domain ID (optional).
6. Verify the configuration.
7. Back up the configuration.

SAN Switch ports



Port Number	Description
8	Fibre Channel switch port 8
9	Fibre Channel switch port 9
10	Fibre Channel switch port 10
11	Fibre Channel switch port 11

NOTE: SAN switch Ports 0, 1, 2, 3, 4, 5, 6, and 7 are the logical internal ports that the Server Blades are connected to via the enclosure back panel. Ports 8, 9, 10, and 11 are the external Switch ports that the SFPs plug into. Server 1 is connected to Switch Port 0, Server 2 is connected to Switch port 1, and so forth.

SAN Switch LED descriptions

The following diagram and Tables 1 through 4 describe the location, color-coding, and activity of the LEDs on the 4Gb SAN Switch.

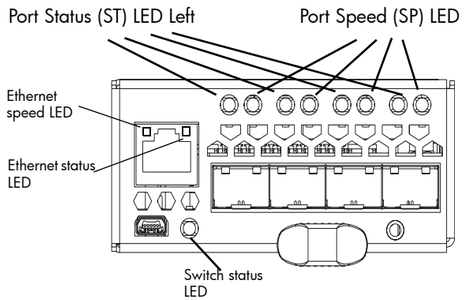


Table 1 Ethernet LED patterns

LED Name, Location	LED Color	Status of Hardware	Recommended Action
Ethernet speed *located above Ethernet port on left* Ethernet link *located above Ethernet port on right*	No light Steady green	Port speed is 10 Mb/sec. Port speed is 100 Mb/sec.	No action. No action.
	No light Amber Blinking green	No link Link is valid. Traffic.	Establish link. No action. No action

Table 2 Switch status LED patterns during normal operation

LED Name, Location	LED Color	Status of Hardware	Recommended Action
Switch status LED *located at right of miniature serial port on bottom*	No light	Switch is off, boot is not complete, or boot failed.	Verify that switch is on and has completed booting.
	Steady green	Switch is on and functioning.	No action required.
	Flashing green (on 1 second, off 1 second)	One or both of the following are true: • One or more environmental ranges are exceeded. • Error log contains one or more port diagnostic error messages.	Check environmental conditions, error log, Port Status LEDs, transceivers, cables, and loopback plugs. Correct error or condition. Clear error log. Rerun diagnostics to verify fix.
	Amber	Amber for longer than 5 seconds indicates a failure.	Needs attention.

Table 3 Port status LED

LED Name, Location	LED Color	Status of Hardware	Recommended Action
Port Status *located on left side of LED pair*	No light	No light or signal carrier (transceiver or cable) detected.	Check transceiver and cable.
	Steady green	Port is online (connected to external device) but has no traffic.	No action required.
	Slow-flashing green (on 1 second, off 1 second)	Port is online but segmented, indicating a loopback cable or incompatible switch.	Verify that the correct device is connected to port and that the switch and port settings are correct.
	Fast-flashing green (on 1/4 second, off 1/4 second)	Port is in internal loopback (diagnostic).	No action required.
	Flickering green	Port is online with traffic flowing through port.	No action required.
	Steady amber	Port is receiving light or signal carrier, but is not yet online.	No action required.
	Slow flashing amber (on 1 second, off 1 second)	Port is disabled as a result of diagnostics or `portDisable` command. If the LEDs for all ports are slow-flashing amber, the switch could be disabled.	Enable the port: use the `portEnable` command; refer to HP StorageWorks Fabric OS Command Reference Guide for more information. If the LEDs for all ports are slow-flashing amber, enable the switch by entering the `switchEnable` command.

Table 3 Port status LED (continued)

LED Name, Location	LED Color	Status of Hardware	Recommended Action
	Fast flashing amber (on 1/4 second, off 1/4 second)	Port is faulty.	Check the Port Status LEDs, error log, transceiver, and cable or loopback plug. Clear the error log. Rerun the diagnostics to verify that the error condition is fixed.
	Alternating green and amber	Port is bypassed.	Check configuration of Fibre Channel loop.

Table 4 Port speed LED

LED Name, Location	LED Color	Status of Hardware	Recommended Action
Port Speed *located on right side of LED pair*	No light	Port is transmitting/ receiving at 1 Gb/sec	No action required.
	Steady green	Port is transmitting/ receiving at 2 Gb/sec	No action required.
	Steady amber	Port is transmitting/ receiving at 4 Gb/sec	No action required.